

PROACT SUCCESS STORY

of Compliance and Pollution Prevention



– An Environmental Resource sponsored by HQ Air Force Center for Environmental Excellence –

CLEAN AIR ACT-Regulatory Readiness and Operational Capacity for the 21st Century

All too often it seems that we can only have a clean environment at the expense of industrial progress. For the military industrial community that means potentially at the expense of current and future mission capability. The following case history presents a win-win situation, built on a platform of data and dialogue; first within the Department of Defense (DoD) and then with regulators. The result is an installation-specific, U.S. Environmental Protection Agency (EPA)-approved emissions growth allowance for the next twelve years in the respective state's air emission budgets. This installation-specific "line item" will facilitate fielding new weapons systems, expanding operations, and allow installations to continue their national security mission in partnership with the regulatory community.

The Clean Air Act

The need for this line item was driven by the requirements of the Clean Air Act (CAA). Under the CAA, the EPA is responsible for (1) protecting the public health and welfare; (2) establishing national standards for air pollutants such as NO_x, SO_x, Pb, CO, ozone (O₃), particulate matter (PM) – known as national ambient air quality standards (NAAQS); (3) determining which areas of the country have air quality that does not meet those standards (nonattainment); and (4) overseeing the states in their efforts to develop and execute state implementation plans (SIPs) to improve air quality in nonattainment areas.

State Implementation Plans

Once an area is designated as "nonattainment" for one of the air pollutants, a SIP must be devised to show how a region can achieve clean air standards. SIPs identify emission sources that contribute to nonattainment and outline methods and plans to achieve attainment status. States are responsible for preparing and implementing SIPs to achieve and maintain the air quality standards within their borders. Some states have divided their total area into air quality control regions. San Diego County Air Pollution Control District (SDCAPCD) is one such air quality control region in the state of California. State and local air pollution control authorities then

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establish individual requirements for controlling air pollution within each region. State plans must be reviewed and approved by EPA.

SIPs and General Conformity

To protect the environment from actions that could hinder NAAQS, the CAA Amendments of 1990 established conformity requirements, which prohibit the Federal Government from engaging in, approving, or supporting activities that:

- Create new violations of the NAAQS;
- Increase the frequency or severity of an existing violation; or
- Delay the timely attainment of a standard, or interim emission reduction or milestone.

If an action does not result in the above circumstances, it is said to "conform" to the goal of attaining or maintaining NAAQS. Prior to the commencement of every proposed federal action, the federal agency must determine if the proposed action conforms to the applicable SIP. If the emissions from the project are less than *de minimis* thresholds specified in the Conformity Rule (i.e., thresholds so minor they can be disregarded), the proposed project conforms and can proceed. If the *de minimis* thresholds are exceeded, the federal action may need to be postponed or scaled back, or emissions offsets may need to be provided through emission reductions from elsewhere in the region. Alternatively, emission reduction credits (ERCs) may be purchased to allow the project to proceed. Another way for the federal action to demonstrate conformity is to have projected emissions from the proposed project already accounted for in the "emissions budget" of the region's SIP. An emission budget is "that portion of a SIP's projected emissions inventory that describes the allowable emission

levels that provide for attainment and maintenance of the NAAQS and meeting interim milestones.”

The DoD continually engages in federal actions requiring sophisticated conformity analyses. Examples of actions that trigger General Conformity include:

- Introduction of new or modified weapon systems;
- New or modified military training exercises;
- New or modified research and test activities;
- Mission realignments and consolidations; and
- Other major actions that trigger National Environmental Policy Act (NEPA).

Given the rigid structure of the regulatory framework, it is becoming increasingly important for military installations to have the ability to plan for future operational flexibility while maintaining compliance with the General Conformity rule. Developing a SIP budget line item is a proactive means to accomplish this objective.

The following case history shows how the Navy and the Marine Corps (MC) in San Diego County negotiated with regulators to obtain a portion of the region's emissions budget.

Navy and Marine Corps SIP Planning in San Diego County

In 2000, San Diego County was in nonattainment for carbon monoxide (CO) and Ozone (O₃) (measured in NO_x and VOC). San Diego is home to multiple Department of the Navy (DoN) installations:

- Naval Station San Diego;
- Naval Air Station North Island;
- Naval Amphibious Base Coronado;
- Naval Complex Point Loma;
- Marine Corps Base/Marine Corps Air Station (MCAS) Camp Pendleton;
- MCAS Miramar; and
- Marine Corps Recruit Depot.

As required by law, each installation would perform complex conformity analyses to determine if projected emissions from any proposed action exceeded *de minimis* levels. Without any ownership or visibility of the installation's existing or planned emissions in their districts budgets, each planned activity would be dependent upon the results of these analyses.

In January 2000, Commander Navy Region Southwest (NRSW), in cooperation with the MC began an effort to develop an emissions growth allowance for the DoN in San Diego County. Such an effort would facilitate operational growth for each of the DoD installations in

the San Diego County. The multiservice team developed a Plan of Action and met with the California Air Resources Board (CARB) to discuss their approach. The team received support from CARB representatives, who encouraged coordination with the SDCAPCD to include reasonable emissions growth in the next SIP update.

By 2001, SDCAPCD had achieved attainment with the federal ozone standards and was in the process of preparing an Ozone Maintenance Plan (MP). The DoN project team met with the SDCAPCD planning staff in April 2001 to discuss military emissions growth projections for San Diego County DoN installations. The SDCAPCD staff was receptive to the idea. To help facilitate the process, the DoN submitted a proposal outlining the details of the emissions growth projection methodology, the level of documentation that the DoN planned to provide, and how the DoN expected the emissions growth allowance to be reflected in the upcoming MP.

Since projecting growth over the next 10 years in an ever-changing national security environment is difficult, definitive growth data were not readily available. However, the DoN committed to providing the most complete, realistic, and reasonable growth data available based on anticipated or potential projects at the time. The DoN emphasized that the growth allowance included in the MP should not be project-, activity-, or installation-specific. Instead, the emissions growth allowance in the region's budget would be expressed either as a cumulative percent emissions increase per year, relative to baseline emissions, or as a lump sum emissions increase, for each nonattainment and maintenance pollutant. The DoN would have the ability to “withdraw” emissions against the cumulative growth allowance for future potential federal actions that exceed conformity applicability thresholds. As long as the emissions from the federal action remain below the growth allowance balance, conformity would be demonstrated for that federal action, regardless of whether that specific action was ever included in the original growth projection estimate. The DoN also made it absolutely clear that it would continue to comply with the provisions of NEPA, other laws and applicable requirements.

Approach to Quantifying Baseline and Growth Emissions

As part of this effort, the DoN reviewed and updated baseline emissions, based on year 2001, for San Diego County DoN operations; collected information on potential operational changes/growth by specific base or for the region as a whole; quantified emissions associated with the projected growth; documented assumptions, calculation methods, and references; submitted the projected emissions growth and supporting documentation to the SDCAPCD; and worked with the SDCAPCD to include a DoN emissions growth allowance in the MP.

The 2001 proposed baseline emissions for existing sources and operations, and future growth estimates focused on aircraft, vessels, ground support and tactical support equipment (GSE/TSE), and tactical vehicles. These source categories comprised the majority of the mobile emissions from military activities in San Diego County. Emission calculations were performed to update the baseline data and to estimate potential emissions growth for the DoN. Emission calculation methodology used was consistent with the procedures contained in the most recent DoN environmental documents.

Privately-owned vehicles (POVs) were not included in the MP since POV emissions are typically estimated by other local agencies. Emissions from government-owned vehicles or miscellaneous minor emission categories (e.g., small generators, construction equipment, etc.) were expected to be small relative to categories described above. Therefore, emissions from these categories were not quantified.

Growth Information Sources

The DoN project team requested that each installation's environmental staff develop a list of potential operational changes that could occur in the next 10 years. Staffs were advised to review and consider all relevant sources of information in cooperation with their headquarters, which could include strategic documents on the changing nature of warfare and weapons systems, Homeland Defense requirements, and past/present experience to identify potential operational changes. Some inherent limitations in data accuracy had to be accounted for, such as details on new weapon system design and fielding due to national security concerns, etc. Potential operational growth/changes emissions were quantified for:

- Introduction of new, modified, or replacement weapon systems, such as MV-22 Osprey, Joint

Strike Fighter, Advanced Amphibious Assault Vehicles, and KC 130J;

- Engine upgrades on existing Navy and MC aircraft;
- Associated changes in GSE/TSE; and
- Potential large-scale exercises.

In addition to the fielding of new weapons systems, emissions from other unplanned military activities could occur at San Diego County installations, such as national emergency response activities. Since it is impossible to predict the likelihood, magnitude, or timing of any potential operational changes in response to such events, the DoN requested an additional emissions growth "wedge" to accommodate potential growth under unanticipated scenarios.

Results

Conformity analyses were performed for the potential projects over the next 12 years for NO_x, CO, and VOCs. The emissions from the potential projects demonstrated that CO and VOC emissions were expected to decrease based on the emission factors available for the new weapon systems, while NO_x emissions were projected to increase. Consequently, the DoN requested an emissions growth percentage for NO_x only. The DoN request was included in the draft ozone MP for the region and made available for public, CARB, and EPA review and discussed at a public workshop in San Diego. No adverse regulatory or community comments were received regarding the DoN growth allowance. The MP, containing a military growth allowance of over 4,100 tons of NO_x (11.4 tons per day), was approved in July 2003.

Benefits

The NO_x growth allowance is available to the DoN, in its entirety, in 2005. This emission growth allowance is based on projected operational growth over the next 12 years and includes a substantial growth wedge to allow for unanticipated operational changes. The 11.4 tons per day of NO_x growth allowance will facilitate fielding new weapons systems, potentially expanding operations, and enhance the DoN's regulatory readiness and operational capacity to continue its national security mission in San Diego County. Incorporating this emissions growth into the MP has also set precedent for the DoN to undertake a similar effort and incorporate emissions growth into the upcoming San Diego County nonattainment SIP for the 8-hour ozone standards and PM_{2.5}.